

# Claims

- [c1] An apparatus comprising:
  - a holder adapted to hold and rotate a substrate;
  - a shield surrounding said substrate; and
  - a dispenser positioned to dispense a fluid on said substrate,wherein a surface of said shield facing said substrate comprises a semi-permeable material.
- [c2] The apparatus in claim 1, wherein said semi-permeable material prevents fluid ejected from the surface of the rotating substrate from forming into a mist and being re-deposited back on said substrate.
- [c3] The apparatus in claim 2, wherein said mist comprises said fluid and foreign material particles.
- [c4] The apparatus in claim 1, wherein said semi-permeable material comprises one of an absorptive material, a screen material, a perforated material and a finned material.
- [c5] The apparatus in claim 1, wherein said semi-permeable material comprises a disposable material and is adapted to be periodically removed from said shield and re-

placed.

[c6] The apparatus in claim 1, wherein said semi-permeable material comprises a permanent part of said shield.

[c7] The apparatus in claim 1, wherein fluid ejected from the surface of the rotating substrate is collected by and drains down said semi-permeable material.

[c8] A cleaning apparatus used during the production of semiconductor wafers, said apparatus comprising:  
a holder adapted to hold and rotate a semiconductor wafer;  
a shield surrounding said semiconductor wafer; and  
a dispenser positioned to dispense a cleaning fluid on said semiconductor wafer,  
wherein a surface of said shield facing said semiconductor wafer comprises a semi-permeable material.

[c9] The apparatus in claim 8, wherein said semi-permeable material prevents cleaning fluid ejected from the surface of the rotating semiconductor wafer from forming into a mist and being re-deposited back on said semiconductor wafer.

[c10] The apparatus in claim 9, wherein said mist comprises said cleaning fluid and foreign material particles.

- [c11] The apparatus in claim 8, wherein said semi-permeable material comprises one of an absorptive material, a screen material, a perforated material and a finned material.
- [c12] The apparatus in claim 8, wherein said semi-permeable material comprises a disposable material and is adapted to be periodically removed from said shield and replaced.
- [c13] The apparatus in claim 8, wherein said semi-permeable material comprises a permanent part of said shield.
- [c14] The apparatus in claim 8, wherein cleaning fluid ejected from the surface of the rotating semiconductor wafer is collected by and drains down said semi-permeable material.
- [c15] A method for cleaning a surface of a semiconductor wafer, said method comprising:  
    positioning a shield around said semiconductor wafer, wherein a surface of said shield facing said semiconductor wafer comprises a semi-permeable material;  
    rotating said semiconductor wafer within said shield;  
    and  
    applying a cleaning fluid on a surface of the sub-

strate.

- [c16] The method in claim 15, wherein said semi-permeable material prevents cleaning fluid ejected from the surface of the rotating semiconductor wafer from forming into a mist and being redeposited back on said semiconductor wafer.
- [c17] The method in claim 16, wherein said mist comprises said cleaning fluid and foreign material particles.
- [c18] The method in claim 15, wherein said semi-permeable material comprises one of an absorptive material, a screen material, a perforated material and a finned material.
- [c19] The method in claim 15, wherein cleaning fluid ejected from the surface of the rotating semiconductor wafer is collected by and drains down said semi-permeable material.
- [c20] The method in claim 15, further comprising removing and replacing said semi-permeable material.